

THREE NEW ELATERIDÆ FROM THE PACIFIC
NORTHWEST
(Coleoptera)

BY M. C. LANE

*Bureau of Entomology and Plant Quarantine, U. S. D. A.
Walla Walla, Washington*

This paper contains descriptions of three new species of Elateridæ belonging to the genus *Limonius*.

Limonius rufihumeralis Lane, new species

Male. Length 8.8-12.0 mm., width 2.4-3.3 mm. Elongate parallel, convex; body, antennæ, and legs deep black, except humeral angles of elytra, which are reddish orange; surface moderately shiny, with very short, erect, gray vestiture, becoming somewhat longer, decumbent, and whitish on abdomen and legs.

Head quadrate, coarsely, umbilicately punctured; frons broadly triangularly concave; clypeal margin entire, arcuate or slightly emarginate when viewed from above; antennæ extending by one to two segments beyond posterior angles of pronotum, second and third segments small, only slightly longer than wide, similar in shape and size, the two together nearly as long as fourth, which is triangular, sixth segment slightly longer than wide, fourth to tenth slightly serrate.

Pronotum one-sixth longer than wide, widest across posterior angles, sides nearly straight, parallel in posterior third, thence narrowing very slightly to anterior angles, which are very slightly explanate; posterior angles produced, obtusely angulate on outside, with a short, fine carina not reaching margin; disc convex to side margins in middle, which are hidden from above, median line canaliculate at basal third; surface densely, deeply, and coarsely punctate on summit, punctures becoming larger and umbilicate toward margins, separated by much less than their own diameters. Scutellum prominent, flat, finely, densely punctate, more densely pubescent than rest of body.

Elytra one-tenth wider than pronotum, about two and one-half times as long as wide, the sides straight and parallel to apical third, evenly arcuate to apices, which are bluntly rounded; orange color covering entire humeral region and base of each elytron, the inner margin of color sharply defined, extending backward for a short distance along second or third interval, there gradually sloping outward to lateral margin near hind coxal plate, and extending faintly along lateral margin to apical third; striæ well defined, moderately coarsely, deeply punctate, the intervals very slightly convex, with three irregular rows of fine punctures.

Proplura densely umbilicately punctured; sternopleural plate excavated and flared in front, grooved one-third to one-half dis-

tance to procoxæ; posterior margin of propleura deeply notched, usually with a blunt tooth in notch; produced hind angles rectangular. Prosternum umbilicately punctured, the punctures more sparsely spaced than on propleura, mucro concave between procoxæ. Metasternum and abdomen moderately densely, finely punctate; last abdominal segment slightly emarginate and depressed on sides, with distinct pattern arrangement of vestiture around these depressions; also with brushes of longer hairs extending from margin between side marginations and apex. *Ædeagus* as figured.

Female. Length 10.5—13.4 mm. Width 2.9—3.8 mm. Differs from male in being on the average only slightly broader and more robust, with antennæ barely reaching to posterior angles of pronotum; last abdominal segment without marginal brushes of long hair, but with vestiture pattern, emargination, and depression as in male, though somewhat reduced.

Type locality—Slopes of Blue Mountains near Walla Walla, Washington.

Type, allotype, and paratype—Catalogue No. 54845, United States National Museum. Paratypes in the collection of the California Academy of Sciences, in the Canadian National Collection, in the Museum of Comparative Zoology, and in the collections of the Academy of Natural Sciences of Philadelphia, Ohio State University, Montana State College, Utah State College, Idaho University, Washington State College, M. C. Lane, H. P. Lanchester, M. H. Hatch, K. E. Gibson, E. W. Jones, and J. H. Baker. Described from 126 males and 72 females, from the following localities: Washington—Walla Walla, April 21 to May 21, 2000 to 3000 feet (Lane, Lanchester, Jones, Gibson); Mount Spokane, June 22, 6000 feet (Lane, Gibson); Buckeye (Hopkins), Kamiak Butte, Palouse, May 20 (Lane, Gibson); Pullman, April 11 to June 6 (Piper, Melander, Bales, Westall, Eide, Eiffert, Burke, Hedberg); Godman Springs, Blue Mountains, June 25, 6000 feet (Lanchester, Jones). Idaho—Moscow, May 1 to June 30 (Clarke, Brindley, Rice, Wakeland, Shull, Aldrich, Yothers, Riddel); Viola, May 24 (Gibson); White Bird, May 23 (Lanchester); Cœur d'Alene, May 7 to 24 (Evenden, Rust). Oregon—Tollgate Road, Blue Mountains, May 27 to June 12, 3000 feet (Lanchester); Milton, June 10 (Jones); Meacham, May 9 to 22 (Lane, Lanchester); Wallowa Lake, May 27 to July 3, 4500 feet (Lane); Baker, Pine Creek, May 12 to 30, 4000 feet (Baker, Lane); Whitman National Forest, Blue Mountains, June 12, 5000 feet (Lane, Lanchester, Baker). Montana—Bozeman, May 18 to June 27; Gallatin County, May 23, 1900, 4800 feet (Cooley); Yellowstone Park,

June 26 to July 19 (Robinson, Melander); Lake County, May 13 (Eichmann); Menard, June 17 (Kohls); Jefferson County, June 23; Florence, June 3; Lolo, May 15. Utah—Logan, May 8 (Knowlton). Canada—Calgary, June 1 (Bryant).

The large series of paratypes is quite uniform in size and color, the humeral orange area showing only very slight variations in shape and extent.

This species has been confused for years with *crotchii* Horn but is distinct from it in distribution as well as in many other characters. The new *rufihumeralis* is easily distinguished from *crotchii* and other black *Limonius* with red humeral angles on the elytra by the genitalia and characters of the last abdominal segment. In *crotchii* the last abdominal segment has evenly rounded margins and regular vestiture.

Limonius rufihumeralis is not uncommon in the yellow pine-shrub association of the Blue Mountains of Washington and Oregon and the Bitter Root Mountains of Idaho, its range extending into Montana and Utah, and north to Alberta.

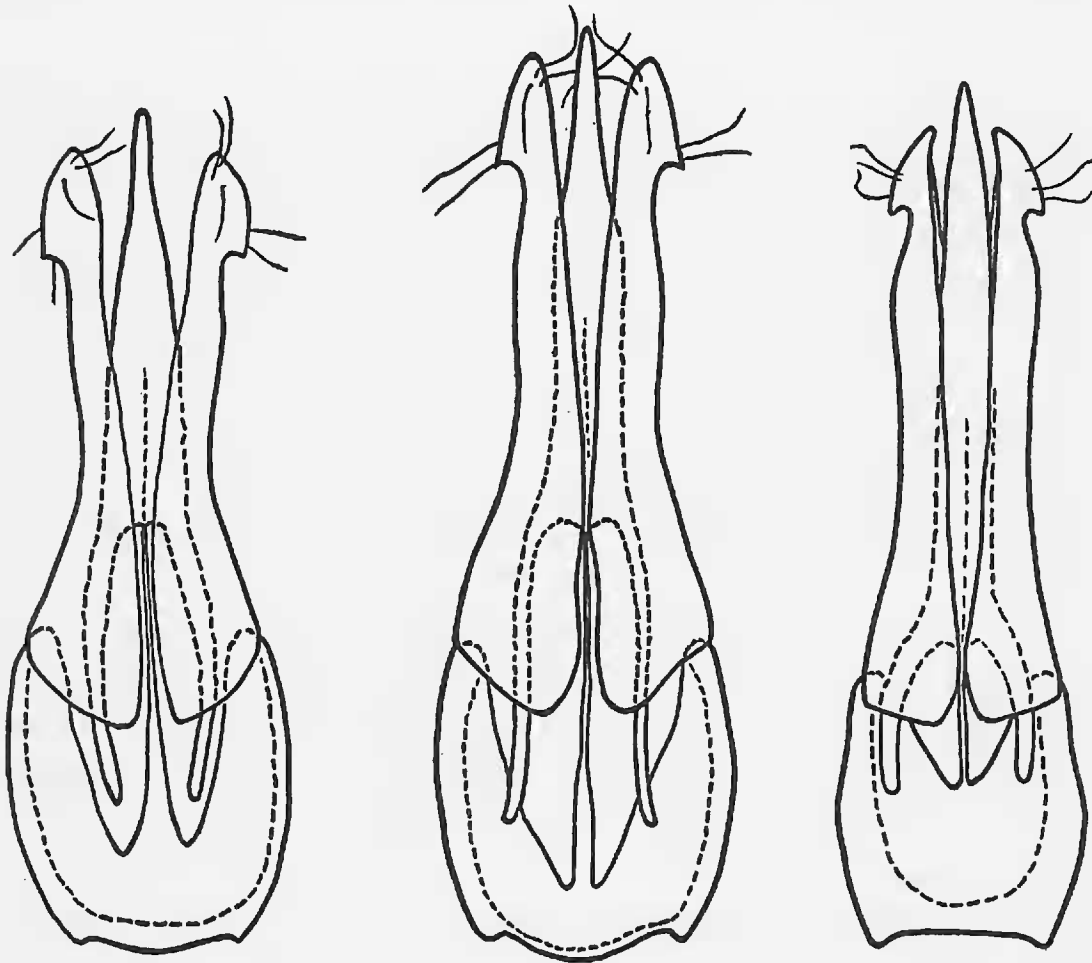
The first specimen under *Limonius crotchii* Horn in the LeConte collection at the Museum of Comparative Zoology at Cambridge, Mass., is a female of *rufihumeralis* from Utah. The second specimen in the LeConte collection is a true *L. crotchii* Horn from Oregon. There is also a female of *rufihumeralis* from Pullman, Wash. (W. B. Mann) in the Blanchard collection at Cambridge. There is a specimen of *rufihumeralis* labeled Seattle, Wash., in the Canadian National Collection at Ottawa, which is probably wrongly labeled, as this species has never been found west of the Cascade Mountains in Washington by the author or his correspondents after years of extensive collecting in that region.

Limonius lanchesteri Lane, new species

Male. Length 9.2 mm., width 2.5 mm. In form, color, and vestiture similar to *rufihumeralis*, but elytra entirely brownish orange, antennæ and femora piceous to brown, tibiæ and tarsi lighter, abdomen sometimes narrowly margined with orange, and scutellum dark brown.

Head quadrate, coarsely, umbilicately punctured; frons broadly concave above clypeal margin, the latter entire and broadly arcuate; antennæ extending at least by one segment beyond posterior angles of pronotum, second and third segments small, subequal, together as long as triangular fourth, the sixth segment slightly longer than wide, fourth to tenth slightly serrate.

Pronotum one-fifth longer than wide, sides nearly straight, parallel, slightly sinuate before posterior angles, narrowing very little to anterior angles, which are somewhat explanate; posterior angles produced, angulate, finely carinate; disc convex, margins hidden at middle from above, canaliculate at base; surface with coarse, umbilicate punctures set closely on disc, very closely on sides. Scutellum prominent, flat, densely punctate, and pubescent.



LANCHESTERI

RUFIHUMERALIS

HUMIDUS

Fig. 1. Male aedeagi of three new species of *Limonius*.

Elytra slightly wider than pronotum, about two and one-half times as long as wide, sides nearly straight, slightly wider at apical third, gradually arcuate to apices, which are obtusely rounded; striae well defined, coarsely punctate; intervals flat, with two irregular rows of fine punctures.

Propleura with very close, umbilicate punctures; sternopleural plate excavated, flared in front and grooved one-third to one-half distance to procoxæ; posterior margin of propleura deeply notched, produced hind angles rectangular. Prosternum with coarse umbilicate punctures, mucro slightly concave between procoxæ. Metasternum and abdomen densely, finely punctate; last abdominal segment with side emarginations and vestiture pattern as in *rufihumeralis*. Aedeagus as figured.

Female. Length 12 mm., width 3.3 mm. Differs from male in being longer, broader, and more robust, with antennæ slightly shorter; last abdominal segment with reduced emargination and hairs as in *rufihumeralis*.

Type locality—Rocky Bar, Idaho.

Type and allotype—Catalogue No. 54846, United States National Museum. Paratypes in collections of M. C. Lane and H. P. Lanchester. Described from four males and one female, all collected in the mountainous region of south central Idaho. The type was collected near Rocky Bar, Idaho, 6000 feet altitude, June 7, 1937, by H. P. Lanchester, for whom the species is named. The allotype was collected near Challis, Idaho, June 21, 1930, and a paratype near Atlanta, Idaho, 8600 feet, June 20, 1931, both by Lanchester. Other paratypes were collected near Smith's Ferry, Idaho, June 23, 1938, and Rocky Bar, Idaho, 6000 feet, June 16, 1939, by Lane.

This species is named for Horace P. Lanchester with appreciation of the many pleasant hours of association in the laboratory and the field studying the Elateridæ.

Very little variation is shown in this small series, except in the legs, which vary a little in color. This species is closely related to *rufihumeralis* by its form and abdominal and genital characters. It differs in having the elytra all orange, the scutellum, abdominal margins, and legs lighter, the pronotum longer with coarse umbilicate punctures on the disc, and the anterior angles more explanate. The lobes of the male genitalia are shorter in proportion to the base in *lanchesteri* and the lateral lobes are more arcuate on the outer angles. Extensive collecting over a period of years has failed to show variation of color or other characters which might suggest that these two species are the same. Their distribution apparently does not overlap, and they should be considered distinct from each other, as well as distinct from all other nearly related species in the genus.

Limonius humidus Lane, new species

Male. Length 8.8-10.4 mm., width 2.3-2.8 mm. Elongate parallel, convex; black, except humeral angles of elytra, which are orange; surface shiny with very short dark vestiture above, becoming longer and ashy colored beneath.

Head quadrate, coarsely, deeply punctured; frons only slightly concave; clypeal margin entire, but not strongly so in middle, and nearly truncate when viewed from above; antennæ extending by nearly three segments beyond posterior angles of pronotum; second

and third segments small, globular, similar in shape, subequal, the two together shorter than fourth, which is triangular, sixth segment slightly longer than wide, fourth to tenth serrate, eleventh elongate and slightly thicker than preceding segments.

Pronotum one-sixth longer than wide, widest across posterior angles, sides nearly straight, narrowing anteriorly, slightly sinuate near posterior and anterior angles, the latter definitely explanate; posterior angles produced, angulate, with short, fine carina parallel to margin; disc evenly convex to side margins, which are visible from above, median line evident only basally, surface deeply and coarsely punctate, more densely so toward margins, punctures on disc separated by about their own diameters or less. Scutellum prominent, elongate, convex, densely punctate and pubescent.

Elytra slightly wider than pronotum, about two and one-half times as long as wide, the sides straight and parallel to a little behind middle, evenly arcuate to apices, which are bluntly rounded; orange color covering humeral region sharply defined diagonally from middle of side of scutellum posteriorly to fourth striae, hence slightly anterior to margin of elytron near mesosternal epimeron; striae well defined, coarsely, deeply punctate, the intervals flat with two irregular rows of fine punctures.

Propleura densely, shallowly punctured; sternopleural plate somewhat excavated and flared in front only; posterior margin of propleura deeply notched, produced posterior angles sharply rectangular, inner angle sometimes acute. Prosternum deeply, coarsely punctured, densely so on mucro, which is only slightly concave between procoxae. Metasternum and abdomen finely, densely punctate. *Ædeagus* as figured.

Female. Length 8.9-11.6 mm., width 2.3-3.2 mm. Differs from male in being slightly larger on the average, with antennae reaching only to posterior angles of pronotum, the last segment being noticeably thickened.

Type locality—Forest Grove, Oregon.

Type and allotype—Catalogue No. 54847, United States National Museum. Paratypes in collections of M. C. Lane, M. H. Hatch, H. P. Lanchester, K. M. Fender, and Oregon State College. Described from six males and ten females, all from wet coastal portion of Oregon and Washington. The type and allotype were collected at Forest Grove, Oregon, March 16, 1919, and April 10, 1938; the paratypes were collected at Corvallis, Oregon, March 1 to April 18 (Ferguson, Scullen, Schuh, Starker); Baker Creek, Lincoln County, Oregon, May 10 to 15 (Fender); McMinnville, Oregon, March (Fender); Hood River, Oregon, April 15 (Childs); Electron, Wash., June 11 (W. W. Baker); Seattle, Wash., April 8 to 20 (Hatch).

This series of specimens varies somewhat in size, but very little in form or coloration. The orange color of the humeral angles of the elytra is restricted and more sharply defined than in any similarly colored species of the genus. This species has also been confused with *crotchi* but can easily be separated from that species by its smaller orange area, larger terminal segment of antennæ, explanate anterior angles of pronotum, convex scutellum, and the ædeagus. It differs from *rufihumeralis* by the same characters, and by the regular vestiture and outline of the last abdominal segment.

Limenius humidus is also related to the eastern *stigma* (Hbst.) (*armus* Say) by color and by the character of the posterior propleural margin and the last antennal segment, but differs by its larger size, more heavily punctate pronotum, and shorter antennæ.

THREE NEW AMERICAN TINGITIDÆ (Hemiptera)

BY CARL J. DRAKE

Iowa State College, Ames

The present paper contains the description of one South American and two North American Tingitidæ. The types have been deposited as indicated under each species.

Teleonemia lutzi Drake, new species

Large, broad, testaceous, with large, prominent, dark-fuscous markings, the antennæ and legs fuscous-black. Head black, with five, short, blunt, testaceous spines, the median porrect and a little longer. Eyes oblique, black. Bucculæ broad, testaceous, darker in front. Rostrum long, extending to end of sulcus, brownish, black at apex; rostral channel deep, wide, becoming a little wider posteriorly, the sides nearly straight, entirely open behind. Antennæ long, shortly pilose; segment I short, slightly longer and stouter than II; III very long, slightly bent, three times as long as IV.

Pronotum strongly convex, pitted, moderately narrowed anteriorly, dark chocolate-brown, the triangular process testaceous; carinæ stout, dark chocolate-brown on disc, becoming testaceous in front and behind, foliaceous, each composed of one row of areolæ; lateral carinæ subparallel, slightly concave within in front; paranaota testaceous, strongly reflexed, narrow, slightly broader in front; mostly uniseriate, indistinctly biseriate in front. Elytra broad, strongly over lapping and jointly rounded behind; costal